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C E N T R A L I N T E L L I G E N C E A G E N C Y

23 April 1964

SUBJECT: TERMS OF REFERENCE: NIE 11-64: THE SOVIET SPACE PROGRAM

THE PROBLEM

To estimate Soviet capabilities and probable accomplishments in space over the next five to ten years.

SCOPE AND METHOD

1. This paper will supersede NIE 11-1-62, "The Soviet Space Program", dated 5 December 1962.
2. As in the past, GMAIC will have primary responsibility for Soviet space activities to date, technical capabilities and future prospects; SIC for Soviet capabilities and future prospects in supporting scientific fields; and CIA/ORR for costing the Soviet program. Contributions should include all-source sections as required. All contributions will be expected on the due date, except for a supplemental contribution by ORR on future costs. Contributions should be distributed simultaneously to interested USIB agencies and committees.

GROUP 1

Excluded from automatic
downgrading and

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3. In addition to the following questions bearing on the problem, the tables which appeared in the previous estimate should be corrected and updated as necessary. For completeness and comparison, the summary tables should include major Soviet space accomplishments of the past.

QUESTIONS BEARING ON THE PROBLEM

I. THE SOVIET SPACE RECORD

A. Summarize, with tables and annexes as necessary, Soviet space accomplishments to date, considering both success and failures. Include data on the expenditure of boosters and other hardware.

B. Discuss the relative emphasis given to near-earth environmental study; manned space flight; cislunar and lunar exploration; planetary probes; and military or other applications. What, if any, shifts in emphasis have occurred in the recent past?

C. Identify major strengths and weaknesses demonstrated by Soviet space activities to date. Assess the quality and quantity of personnel and facilities associated with the Soviet space program.

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II. SHORT-TERM PROSPECTS FOR KNOWN PROGRAMS

A. Discuss indicators which point toward specific space objectives in the near future (i.e., over about the next year). Scientific objectives? Military applications? Non-military applications?

B. What developments are likely to occur within about the next year as the result of a continuation or logical outgrowth of observed trends? In the two Cosmos series? In lunar or planetary exploration? In manned space flight? (Consider the level of risk the Soviets appear willing to accept in their manned space flight program).

C. Discuss existing Soviet capabilities for new space spectacles. Do any of these appear probable within about the next year?

III. SOVIET EXPENDITURES FOR SPACE

A. Estimate the annual and total costs of the Soviet space program to date in the following categories:

1. That part of the observed program which is clearly identifiable and uniquely space-related, e.g., vehicles and payloads actually expended.

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2. Other costs of observed Soviet space activities, e.g., research and development, supporting facilities and equipment, and astronaut training.
3. Additional expenditures which would already have been made, assuming that the Soviets have a considerably more ambitious space program, including preflight preparations for advanced activities such as those discussed in NIE 11-1-62, e.g., a manned lunar landing in the 1967-1969 time period; a large, manned space station in 1965-1966.

B. Discuss the impact of the space program upon the Soviet economy to date, both including and excluding the additional expenditures assumed in para. A.3 above.

IV. LONG TERM OUTLOOK

A. What inferences regarding long-term Soviet goals in space can be drawn from the evidence available? Consider recent space activities, space-related research and development, development of supporting facilities and equipment, Soviet literature and statements, and the likely Soviet view as to military and other requirements. Is there any evidence to suggest that earlier goals have been modified or abandoned?

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B. Estimate Soviet capabilities in space technology, including: propulsion systems; guidance; instrumentation; life support systems; re-entry and recovery techniques; tracking and surveillance systems; communications and control; data processing; power supplies for space application; rendezvous, docking, and transfer techniques.

C. Estimate Soviet capabilities to achieve the following major space objectives: large, manned space station; manned lunar flights; manned lunar landing; significant military-support systems; and defensive and offensive space-borne weapon systems.*

1. Discuss the techniques the Soviets would probably employ to achieve each of these major objectives, and the chronology of preparatory activities and events which would be likely to precede their achievement.
2. Evaluate the capabilities of US intelligence to detect key preparatory activities and events, and

* Unless important new evidence or analysis becomes available, no contributions are required on the subject of the possible, development of defensive and offensive, space-borne weapon systems. We propose to rely on the major determinations on these subjects expressed in NIE 11-9-63, NIE 11-4-64, and the forthcoming NIE 11-3-64.

hence to identify specific Soviet programs at present and as they advance.

3. Discuss and evaluate present indicators pointing to Soviet programs to achieve each of these objectives or suggesting the absence of such programs.

D. Discuss the likely impact of economic constraints upon long-term Soviet plans and programs.

1. Estimate the costs of programs described in paras. B. and C. above.
2. Consider the effect of competition for scarce resources among the space program, the military establishment, and the civilian economy.

E. What is likely to be the influence of political factors (both domestic and external) on future developments in the Soviet space program? The influence of US space programs and activities?

F. Considering all factors, discuss the probable scope and nature of Soviet space accomplishments over the next 5 to 10 years.

1. Estimate a single program or alternative programs, including specific developments and their probable timing.

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